

PLATE IV.

- Fig. 31. *Lewisium seychelleanum*. Maxilla.
 Fig. 32. *Lewisium ceylonicum*. Maxilla.
 Fig. 33. *Catoptyx bowringi*. Maxilla (from Matthews, pl. vi. fig. B 5).
 Fig. 34. *Lewisium seychelleanum*. Labium.
 Fig. 35. *Lewisium ceylonicum*. Labium.
 Fig. 36. *Catoptyx bowringi*. Labium (from Matthews, pl. vi. fig. B 6).
 Fig. 37. *Rhyphobius aquilinus*, sp. n. Outline.
 Fig. 40. *Orthoperus munice*, sp. n.
 Fig. 41. Ditto. Metasternum and first abdominal segment, middle and posterior coxal cavities shaded; *l*, diverging metasternal line or stria.

PLATE V.

- Fig. 38. *Rhyphobius aquilinus*, sp. n. Antenna.
 Fig. 39. *Glaucosoma velox*, Wollaston. Antenna.
 Fig. 42. *Orthoperus munice*, sp. n. Anterior tibia and tarsus, ♂.
 Fig. 43. Ditto. Ditto, ♀.
 Fig. 44. *Orthoperus minutissimus*, Matthews. Anterior tibia and tarsus, ♂.

II.—Notes on *Exotic* Chloropidæ. By C. G. LAMB,
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THE following notes are based on material from two sources. The larger portion is the collection of Diptera in the Zoological Department of Cambridge University, and will be referred to as "Cam. Coll." In 1904 Mr. F. Muir presented a very large collection of Diptera from Africa to the Cambridge Museum, and his specimens will be marked "F. M." In addition, the Museum was indebted to Dr. G. A. K. Marshall for many other specimens from the same region, and there have been various other small accessory collections incorporated from time to time. The other portion consists of specimens kindly submitted to the author by Dr. G. A. K. Marshall—they are part of the extensive collection being formed by the Imperial Bureau of Entomology; this will be referred to as "Bur. Coll."

All the insects listed and described in the paper will be deposited in the British Museum, and hence no indication of the situation of the type-specimens will be given after the descriptions; they will all be in the British Museum.

The task of dealing with this family is enormously lightened and simplified by the valuable and complete monographs of Th. Becker, which bring the information

available up to the dates of publication of the same, and hence save much labour in searching out old records. These monographs are :—

- I. Theil. Palaearctic Region.
'Archivum Zoologicum,' i. 1910.
- II. Theil. Ethiopic Region.
Ann. Mus. Nat. Hung. vii. 1910.
- III. Theil. Indo-Australian Region.
Ann. Mus. Nat. Hung. ix. 1911.
- IV. Theil. Nearctic Region, Neotropical Region, and Addendum.
Ann. Mus. Nat. Hung. x. 1912.

The last brings the list of known species in all the regions up to date ; it also contains a discussion of Enderlein's new genera (Sitz. d. Gesell. Nat. Freunde, 1911), and clears up many points in that paper which at one time seemed likely to throw the classification into confusion.

These monographs will be shortly referred to by the numbers I., II., III., IV. after Becker's name.

As is so often the case, a considerable number of single specimens occur in both collections. Where the characters are quite unmistakable and striking, these single specimens have been described as the types of new species. When the specimen agrees with fair accuracy with any published description, it has been thought best to place the insect under the existing name ; but in general it will be found that this fact is referred to, and any differences recorded.

The Chloropidæ form a very protean family and include great numbers of genera that run fairly closely into one another. It might be said that almost every positive character which limits the family may be separately absent in some genera—in fact, the allocation of an insect to the family is in many cases practically due to a "trained eye," and cannot be logically justified by the limits of the definitions of the family. This is possibly more true of this family than of any of the other Acalyprate groups.

It naturally results that the generic limitations follow the same tendency, and that the original limits of a genus, as set by its founder, have to be transgressed, so that finally the "genus" sometimes bears little resemblance to the limited form originally prescribed. A good example of this is to compare *Gaurax* as founded by Loëw with Becker's latest concept of the species forming that assemblage.

Such a sequence of events is, from the nature of the case, inevitable, though it leads to much difficulty both in tracing species and in assigning genera. The fact is that in some groups of the Oscininæ there is no natural line or lines of demarcation; even the known forms merge into one another and share characters that should belong to different genera as originally defined; and when the world forms are really adequately studied there can be no doubt but that this tendency will be increased.

It will follow that it is quite possible that the author may have assigned species to definite genera which, in the opinion of more experienced students, should be placed elsewhere. For this reason the descriptions are often made a little fuller than would be necessary to enable one to discriminate between the species of a sharply bounded genus such as *Chyliza*. For the same reason it will be found that he has been compelled to place species in genera whose specification does not exactly meet the case. A good example is *Lagaroceras anomalum*; if the head were removed it would be impossible to distinguish this species from one of the described forms of Becker's *L. megalops*; but the antenna and vertical triangle are both considerably at variance with the forms described as characterizing the genus. Wide interpretation of generic limits is unavoidable in this family, for if definite and fixed generic characters were to be adhered to, the family would mainly consist of monotypic genera.

The author hopes to be able to continue with some other of the Acalyptrate families if time and opportunity permit.

Note.—To save space certain abbreviations will be used. When describing the head the word "triangle" will refer to the fronto-vertical macula usually found there, though its shape varies greatly. The antennal joints will be referred to by number only—thus "3rd" will mean third joint of the antenna. In the case of the thorax the word "callus" will refer to the front thoracic callus unless qualified. In the wings the veins will be referred to by the old system of numbers as being more convenient and simple in this case; thus, "2nd" will mean the second long vein. Similarly, the costal segments will be referred to by the numbers of the long veins that end there—thus "2 to 3" means costal distance between ends of second and third long veins measured on costa.

CHLOROPINÆ.

PACHYLOPHUS, Loëw.

The following species were in the collections:—

- P. lugens*, Loëw. Cam. Coll., Durban (*F. M.*).
P. splendidus, Ad. Cam. Coll., Durban (*F. M.*).
P. proximus, Ad. Cam. Coll., Durban (*F. M.*).
P. fossulatus, Ad. Cam. Coll., Durban (*F. M.*).
P. varipes, Ad.; a very pale-legged form. Cam. Coll.,
 Durban (*F. M.*).

In addition, there were many specimens included in the ordinary black-vertexed section. To this section belongs

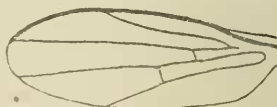
Fig. 1.



Fig. 2.



Fig. 3.

Fig. 1.—Wing of large form of *P. frontalis*.Fig. 2.—Wing of small form of *P. frontalis*.Fig. 3.—Wing of *P. frontellinus* (?).

Loëw's species *P. frontalis*; Becker, in his monograph, only recognizes as valid that single species in the section with black triangle, prominent head, and pale femora. He sinks as synonyms both Bezzi's *P. tellinii* and Speiser's *P. frontellinus*. As regards the first, he makes out what is apparently a good case, but gives practically no reasons for the second. If one studies the fairly long series in the Cam. Coll., it can be seen at once that there are two quite definite venations present, shown in figs. 2 and 3. The species with the cross-veins fairly apart has a dullish frons, with the triangle little marked, but a raised shining black central

line, and this form agrees quite well with the description of *frontalis*. The species with the more approximate veins is a little smaller and its vertical "triangle" is more shining; the raised central line tends to be multiple—in fact, it agrees very closely indeed with Speiser's description of *frontellinus* (Kilimandjaro Meru Exp., Diptera, x. p. 198). In the Bur. Coll. are specimens still more robust than the first species, with venation as in fig. 1 and with rather more glassy wings, but otherwise practically identical with the first series.

It appears best to consider the first and last sets of specimens as belonging to *frontalis*, and the other to *frontellinus*; in none of the published descriptions is any figure of the venation given.

P. frontalis. The large form: Bur. Coll., Durban (*L. Bevis*).

The smaller form: Cam. Coll., Durban (*F. M.*).

P. frontellinus. Cam. Coll., Durban (*F. M.*).

Three species in the collection belong to the smaller section of the genus with a pale vertical triangle. Hitherto there are described but two species in this section (Becker, II., p. 388). Neither of these species accords with the specimens in the collection, and hence they must be considered new.

Pachylophus lituraticrus, sp. n.

This species belongs to Becker's section with pale legs and triangle (II. p. 387).

Head (top view):—Vertex nearly as broad as twice the visible eye-breadth, somewhat transversely concave on the front, bright dullish yellow; the triangle is shining orange without furrows &c., extending not quite to the frons, with a rounded darkened tip, very slightly concave sides, and with the vertical base just less than the eye-distance; the ocellar spot black. In profile the angle between the vertical and facial tangent-planes is a little less than 90° , the frons being just visibly prominent. The pale yellow cheeks are about $\frac{2}{3}$ the depth of the 3rd joint; the latter is quite normal, yellow except for the part below arisal insertion; the latter is black and of usual form. Palpi yellow. Hind head orange; a darkening behind the ocellar spot, and a pale spot each side just at the top angle of the eye, on which the tiny vertical bristles stand.

Thorax: dorsum elegantly striped; along the middle is a broad stripe of reddish brown bordered by pale narrow

stripes, which are less covered with the tiny bristles clothing the rest of the dorsum—hence these pale stripes are made more conspicuous; beyond these down to the notopleural suture the dorsum is again reddish brown, though less intense; callus with a black central spot surrounded by yellow; pleura orange, shining. Scutellum with its middle third occupied by a bright yellow longitudinal stripe, bounded by black, though the extreme hind angles are pale; terminal crossed bristles just at the end of the black stripes; the surface is very faintly and sparsely striate.

The venation is exceptional; the cross-veins are much approximated, being separated by a distance rather less than $1\frac{1}{2}$ times the length of the hind cross-vein. The discal cross-vein is a little beyond the costal ending of the 1st; wings clear, with pale orange veins. Halteres white.

Legs all yellow except for an infuscation on the front tibia and tarsus and on the last joints of the other tarsi. A very striking and constant character is a darkened "brand" on the back of the hind tibia; this brand occupies about $\frac{1}{3}$ the length of the tibia. Similar structures can be just seen on the legs of other species, but are not coloured in them; they also occur in other Chloropid genera.

The abdomen is the same colour as the thorax, the margins narrowly paler, and has a well-marked interrupted darkened middle line.

The intensity of the reddish colour of the insect varies to a fair extent.

Length (excluding antennæ) nearly 3 mm.

A long series in Cam. Coll., Durban (*F. M.*).

Note.—It is just possible that this species is the same as Becker's *P. contractus* (II. p. 393); but it is unlikely that so careful an observer should not mention the "brand" or the relation of the cross-veins.

Var.—There is a single specimen with a slightly paler triangle and no visible dark brand. This is in the Bur. Coll., Manganallur, Tangore. Although the localities are so far apart, the insect is not specifically separable.

STELEOCERUS, Beck.

S. lepidopus, Beck. Cam. Coll., from Chirinda Forest (*G. A. K. M.*).

Steleocerus nigricornis, sp. n.

This species is next to Becker's *S. longicollis* (II. p. 401), but differs as follows:—

The halteres are grey, not white; the jowls are larger, about $\frac{1}{3}$ the depth of the third antennal joint; the tongue is pale, not black; the antennæ are all deep black, not red; legs a little paler; wings more normal, with rounded anal angle.

Size $5\frac{1}{2}$ mm.

Cam. Coll., Durban (*F. M.*).

S. ensifer (?), Thoms.

A single specimen agrees fairly with Thomson's description (*Eug. Resa*, p. 605), but it is possible that we have another species here. The legs are quite pale; the frontal triangle is not all yellow, but is very much suffused with shining brown, which does not, however, entirely cover the triangle, but occupies the base and shades off forward. One cannot be sure of the identification from this single specimen.

Bur. Coll., Mysore.

There is an immature specimen in Bur. Coll. from Coimbatore, Madras, which is near *S. formosus*, Beck.

Steleocerus quadrivittatus, sp. n.

From the Chirinda Forest, S. Africa, we have a few specimens of a species of the *ensifer-tenellus* group.

Head (top view):—Frons yellow and dull, the triangle equilateral, with nearly straight sides; basally it practically touches the eyes and extends by a sharp point right to the front; it is suffused with shining brown, which leaves narrow yellow side-lines and broader boundaries on the hind head, where the black part of the triangle's base extends as a broad stripe down the hind head. Side view: outline fairly circular, the frontal and facial tangent-planes making about 90° , and the hind jowls large; eyes oval, oblique forwards, with narrow lower jowls less than half the width of 3rd; all the side is whitish yellow. Antennæ rather large, the 3rd projecting backwards a little, so as to be a longish oval with axis parallel to body-axis; it is yellow, but darkened dorsally; 2nd yellow, arista normal. Face, palpi, &c., all pale yellow.

Though there are but few specimens, the thorax varies somewhat in amount of darkening; dorsum with a broad

black central stripe, sometimes getting browner behind, and extending forward right on to the prothorax; each side is a grey pollinated line of ochreous tone, which is moderately distinct till just before the scutellum, where it suddenly becomes very marked and forms an elongate spot at each side of scutellar base; similarly in front, just at level of calli, it again forms bright long spots; beyond these grey lines the dorsum is as the mid-line, but is more darkened in front of the cross-suture, in one case quite black there. Calli shining, rather orange. Pleura all somewhat shining orange, with brownish boundaries to the sclerites; the black spot over middle coxa may or may not be present. Scutellum darkened orange, in one case paler in centre; terminal bristles long and crossed, and a few smaller marginal ones.

Wings clear with brown veins, 2nd ending about $\frac{2}{3}$ down costa between 1 and 3. Halteres white, with orange stalks.

Legs orange, with front tibia and tarsus a very little darkened.

Abdomen yellowish at sides, the dorsum forming a broad darkened continuous stripe.

Size (ex. antennæ) just under 2 mm.

Cam. Coll., Chirinda Forest, S.A. (*G. A. K. M.*).

The second species is represented by but a single specimen, but it is very distinct from all the others.

Steleocerus flavipes, sp. n.

Head (top view):—About $1\frac{1}{4}$ times as long as broad; from vertex to the slightly prominent frons it is all bright yellow; the triangle is very shining, especially along its concave side boundaries; these are slightly depressed, and the hair-lines on them are exceptionally well marked; the sharp-pointed apex projects between the somewhat swollen antennal pits; basally it does not quite occupy the whole vertical breadth; eye-margins narrowly silvery, especially in front; ocellar circle black; hind head absolutely pale except for two excessively narrow dark lines from vertex. Side view:—The angle between frontal and facial planes is about 75° ; antennæ all quite pale yellow, except that the 3rd joint is orange just at the insertion of the black arista, which is more elegantly and regularly haired than in the other species. Jowls pale yellow; palpi pale. In front the mouth-margin is seen to be very narrowly darkened.

Thorax reddish orange, with the following greyish pollinated stripes:—Centrally a short narrow one extending but

a little distance on the disc, each side of this another which runs to the outer angles of the scutellum, diverging as they go; beyond these the orange is very slightly suffused with grey; calli shiny orange, pleura the same. Scutellum blackened orange, slightly punctate.

Wings yellowish, with orange veins; small cross-vein just perceptibly beyond the costal ending of the 1st; hind one about 3 times its length from the former, and with its distance from the lower end to the 5th vein-ending about $1\frac{1}{2}$ times the distance apart of the cross-veins.

Halteres quite white, with yellowish stalks.

Legs entirely yellow, with no darkening at all.

Abdomen all darkened orange, with very narrow palish hind margins.

Size nearly 3 mm.

Cam. Coll., Mozambique (*F. M.*).

Steleocerus latiseta, sp. n.

There is a single specimen of a very distinct species.

Head (top view):—Frons dull orange, lighter over antennæ, the triangle is remarkable in form; basally it just does not touch the eyes; the margins are formed by raised straight ridges; about halfway a sudden diminution in breadth occurs, so that the side boundaries at that point are suddenly shifted inwards; the space between these forward parts of the ridges is necessarily a little depressed, but down the centre runs a very fine raised ridge, which goes to the front of the head to just behind where the side-ridges meet in a slightly rounded curve; the whole is shining bluish black except the extreme tip, over which the frontal orange runs; ocelli bright chestnut. Back of head entirely black. Side-view:—Eyes very large, only leaving very narrow lower and fairly narrow hind orange jowls; the orange frons is just visible, the 3rd is orbicular and all orange; the arista is a little broader than usual and tapers to a fine point.

Thorax: dorsum dullish black, pollinated more and more strongly with brown pollen towards the scutellum; the pre-scutellar depression is present, but is not sharply demarcated from the rest. Scutellum as thorax, with divergent bristles. The calli and an area below all orange, the pleura shining dark brown, with a few lighter areas interspersed.

Wings clear, with brown veins, but with a faint smoky cloud between 3 and 4 extending nearly to level of costal ending of 2; the second vein long, as in *lepidopus*.

Halteres with white knobs.

Legs entirely yellow, except that the last two joints of the very slightly dilated front tarsi are suffused.

Abdomen all rather shining brownish black.

Size (ex. antennæ) 2 mm.

Cam. Coll., Chirinda Forest, S.A. (*G. A. K. M.*).

MEROMYZA, Meig.

M. capensis, Loëw.

There is a long series in Cam. Coll. which shows the very considerable variation in abdominal and other infuscation that occurs in this species.

Cam. Coll., Durban (*F. M.*).

Cam. Coll., Salisbury, Mashonaland (*G. A. K. M.*).

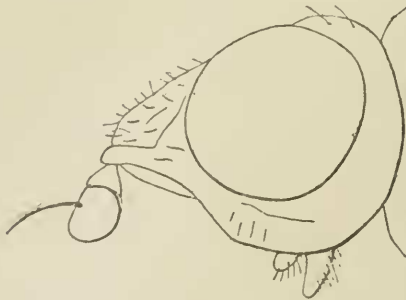
Bur. Coll., Zomba, Nyasaland (*H. Stamus*).

EURINA, Meig.

Eurina oculata, sp. n.

There are two females in the Bur. Coll. which belong to this genus, but do not fit with any of the hitherto described species. The eyes are larger than in most, being more of the proportion shown by Meigen in S.B. vi. tab. lv. fig. 10, though the frons is less protuberant.

Fig. 4.



Eurina oculata, × 40.

Head (top view):—Breadth nearly twice the distance from vertex to tip of frons; vertex concave; eyes prominent and practically bare; frons ending in a rounded cap containing the antennal bases. The colour of frons &c. is pale brown, dull; the rather darker triangle is nearly equilateral, more shiny, with base about $\frac{5}{6}$ vertical cross-breadth;

it ends in a very sharp raised ridge extending to the antennal cap; the boundary is formed by two darkened furrows bordered interiorly by two or three smaller parallel furrows; the frons itself (along eye-margins exteriorly to the triangle) has two very deep and broad furrows extending along the sides of the triangle from the vertex to end of the triangle; the minute pairs of vertical bristles stand at the beginning of these furrows. Ocelli brown, with tiny ocellars each side of the front ocellus. The hind head is darkened behind the ocellar triangle except along the actual vertex, which is yellow in two long confluent spots; the rest of hind head is brownish yellow.

Side-view :—The eyes are larger than usual, nearly circular, though slightly longer horizontally than vertically; the frons is hence less prominent than usual, the distance from antennal base to eye-margin being about 0.3 of the horizontal eye-breadth; the profile is less triangular than usual, there being well-marked horizontal jowls of about $\frac{1}{4}$ the eye-depth running into the frons by a concave face-line. The side is all brown-yellow except that the frons is there infuscate. Antennæ black, small 2nd joint, 3rd elliptical; arista pale, but brown on the swollen basal joint. The pale face has a slight central swelling below antennæ. Palpi orange.

Thorax discally grey; two mid-stripes darker, extending from front to back, just separated till towards the scutellum, where they meet; alongside these stripes is an interrupted dark stripe forming a spot about the position of the cross-suture, and a longer continuing stripe extending to the scutellum; just above the side-suture is a similarly broken indistinct line; callus and pleura dull orange-brown. Scutellum orange, swollen, rounded in profile, hairy, especially on the margins, though no true bristles are present; it is darkened discally, with the orange showing through as a narrow stripe.

Wings normal, with thick veins; the thinning out of the 4th vein occurs suddenly at about $\frac{1}{3}$ of its length; cross-vein rather oblique. Halteres orange, with dark stalk.

Legs all orange-brown like the pleura, but slightly infuscate dorsally on all the femora (less so on the front pair), on the tibiæ, and hind tarsi.

Abdomen somewhat flattened, dark brown, with sharp narrow whitish margins; ventrally all pale.

Size 4 mm.

Bur. Coll., Hagari, Madras Presidency.

Note :—"Feeding on leaf-parenchyma of grass."

LAGAROCERAS, Becker.

There appear to be five species that fall within the limits of this genus, of which at least three appear to be undescribed. They all agree with Becker's diagnosis very fairly, except that in two of them the 3rd antennal joint is broader than he figures for his type-species, and is more simply a long oval; there appears, however, to be no good reason for not placing them in his genus.

L. megalops, Beck.

There is a single specimen which agrees very fairly with Becker's description and figure; the dorsum is quite blackened all over, so that the three stripes are here confluent.

Cam. Coll., Mozambique (F. M.).

Lagaroceras anomalum, sp. n.

There are several specimens of a species which very closely resembles the above specimen in thoracic and abdominal colour, in the legs and general facies, but is a little larger. The differences are, however, marked and constant; they are (1) the triangle, which has a different form; it is not truly leaf-shaped, as in the generic diagnosis, but is practically triangular, with concave (not convex) sides; it extends to the front of head: (2) the antennæ are relatively shorter, though still nearly as long as the face; the third joint is not quite twice as long as the second and is about $1\frac{1}{2}$ times as long as broad; it is oval in form, with the upper tip sharply rounded.

Size (excluding antennæ) 3 mm.

Cam. Coll., Durban (F. M.).

Lagaroceras pulchellum, sp. n.

This is a fine handsome species of the *megalops* group.

Head (top view):—As broad as thorax; frons black except anteriorly just above the antennæ, where it is orange; the surface is dusted with greyish pollen and has many small hairs; the triangle is highly polished black and is of a pointed leaf-shape, the sharp stalk extending right to the base of the antennæ; the base is rounded and occupies a little over $\frac{2}{3}$ of the vertical breadth. The head-bristles are well marked; the back of the head is black. Side-view:—Profile a little more trapezoidal than normal, the line from

antennal base to mouth-edge nearly straight; jowls about equal in breadth to that of the 3rd antennal joint—they are silvery, as are the hind jowls. The antennæ are inserted just on the edge of the orange frons and are just about as

Fig. 5.

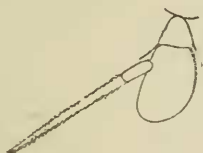


Fig. 6.

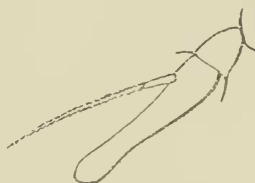


Fig. 7.



A.



B.

Fig. 8.

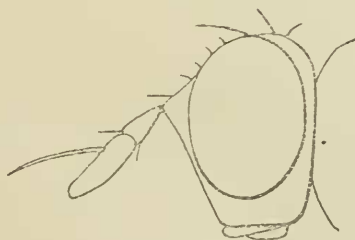


Fig. 5.—*Lagaroceras anomalum*, $\times 50$.

Fig. 6.—*Lagaroceras longicorne* (?), $\times 50$.

Fig. 7.—A. *Lagaroceras megalops*, $\times 35$. B. *Lagaroceras anomalum*, $\times 35$.

Fig. 8.—*Lagaroceras pulchellum*, $\times 35$.

long as the face is deep; they are all darkish orange, except that the upper half and the tip of the 3rd joint are blackened; this joint is about $1\frac{1}{2}$ times as long as the 2nd, which

is itself rather unusually long; arista white and closely pubescent as usual, with the smooth basal joint yellow. The face is shining black, with silvery lines from the antennal bases to the mouth and with silvery lower eye-margins; palpi black.

Thorax: the dorsum is finely granulated; the general ground-colour is dark greyish, with the following black marks:—a broad median line vanishing about halfway, a very fine black line running down the centre of each of the rather obsolescent furrows; beyond this a broadish line from just in front of the callus to the side of the scutellum, interrupted by the grey ground where the cross-suture should be; last d. c. well developed; pleura shining black, with oblique row of three pale yellow spots—a triangular one just behind the humeral callus, a sloping one on the mesopleura, a horizontal one above the mid-coxa. Scutellum pale orange, nearly flat, hairless, with long crossed terminal bristles and small accessory ones beside the main ones and close to them.

Wings clear, with brownish veins; the venation is not quite as given by Becker for *megalops* (I., tab. iii. fig. 47); the 2nd vein is quite parallel to the 3rd all the way, and the distances between the ends of 2 to 3 and 3 to 4 are nearly equal.

Legs orange; femora progressively more infuscate from front to hind; last tarsal joints dark.

Abdomen entirely deep dull black, smooth.

Size (ex. antennæ) $3\frac{1}{4}$ mm.

Cam. Coll., Durban (*F. M.*).

To the section with dark and rather rugose scutellum belong two species. One of these will pass for *L. longicorne* of Thomson (Eug. Resa, p. 601). It agrees quite well with what would be a dark form of the species, though not so well with Becker's description (I., p. 108). The remarkable antennæ are even longer than may be inferred from the description; the thorax can be described as black, rather rugose, with three narrow, smoother, grey stripes; the scutellum like thorax, centrally black, with the sides orange.

It is possible that we have a new species here, but as there is but the single specimen, it is left provisionally in this species. Thomson's species was from China, this is from S. India.

Size (ex. antennæ) nearly 3 mm.

Bur. Coll., Coimbatore, Madras Presidency.

The following is a second species of this section ; it occurs also as a single specimen which, like *L. anomalum*, has a relatively stout antenna—in fact, the antenna is practically as shown in fig. 5 (p. 45).

Lagaroceras infuscatum, sp. n.

Head (top view):—Frons all palish ochreous brown, dull and black-haired, the triangle shining dark orange-brown and of peculiar shape; the basal part is about $\frac{5}{6}$ as broad as the vertical cross-breadth; it continues normally along the frons, but about midway is suddenly constricted, and then continues like a narrow spear-head to the antennal base; each side of the constricted point is a yellow raised spot on the triangle; the surface is somewhat variegated in striæ and the middle area is rather darker than the rest; just at the hind eye angles occur the usual pale spots carrying the vertical bristles. The f. o. b. small, but distinct. Hind head all black. Side-view:—Frons a little prominent, covering the antennal base, brown; face-outline nearly linear, if anything slightly concave, from antennæ to mouth. The total length of the antennæ is about equal to the face; the 2nd joint about half as long as 3rd, which is a little less than twice as long as broad; rounded oval in outline, all darkened except for a tiny spot of orange on the base of 3rd joint below; arista normal, white and pubescent, with smooth pale yellow base. Jowls, lower and hind, palish yellow, the former about half the depth of 3rd joint. Palpi black. The face is darkened with a narrow emarginate paler mouth-margin; the eyes have short silvery margins.

Thorax: dorsum black and finely punctate, with three very narrow grey lines. Scutellum flattish, similar to thorax, with a dark orange median line, two terminal and one adjacent smaller bristle each side. Pleura very shining brownish black, except for a yellow stripe just below the mesopleura.

Wings with venation similar to *pulchellum*, 2nd and 3rd quite parallel, but the cross-vein is slightly sloped backwards. Halteres white, with a brown stalk.

Legs orange, the femora progressively more infusate from fore to hind pairs, the last tarsal joint darkened.

Size (ex. antennæ) $2\frac{1}{2}$ mm.

Can. Coll., Durban (*F. M.*).

HAPLEGIS, Lcëw.

Haplegis nitens, sp. n.

A small form, considerably more shining than *H. tarsata*.

Head (top view):—Entirely black and somewhat shining, even on eye-borders; the triangle fairly close to eye on vertex, extending with the usual straight sides to a sharp point over antennæ, excessively shining, with the usual shallow but sharp depressed middle trough; the bordering hair-rows very indistinct. Hind head all black. Side-view:—Lower jowls dull orange and very narrow; antennæ of normal form, 3rd black and round, 2nd bright orange; arista black and finely pubescent, the longish basal joints more orange. Face fairly silvery; tongue and palpi blackened.

Thorax all entirely shining black, including the scutellum, which has two longish end-bristles; the whole dorsum has a regular clothing of very fine brown hairs; the pleura is faintly orange in some parts.

Wings clear, normal in venation, brown veins. Halteres with almost white head.

Legs entirely clear orange, including front coxa and all the tarsi.

Abdomen shining black.

Size 2 mm.

Cam. Coll., Durban (*F. M.*).

ELACHIPTEREICUS, Beck.

E. bistriatus, Beck.

Specimens from Durban, Cam. Coll. (*F. M.*).

CAMAROTA, Meig.

(*Modo, Oscinis*, Latr.)

C. angustifrons, Bezzi.

Specimens from Durban (*F. M.*) agreeing well with Bezzi's description.

METAPOSTIGMA, Beck.

M. sauteri.

Specimens in Bur. Coll. from Coimbatore, Madras.

CHALCIDOMYIA, de Meijere.

This genus was described in *Tijd. v. Ent.* (vol. liii. p. 156) as a *Drosophilid*, the error being due to the insect possessing a remarkable bipectinate arista. Becker redescribed it in its

proper family as *Hemisphærisoma* (III., p. 47). The synonymy was given by de Meijere in *Tijd. v. Ent.* (vol. lvi. p. 571). In both cases the specific name selected for the type-species had been *politus*, but for some reason de Meijere changed it to *beckeri*, though both types were the same species.

C. polita, de Meij.

Specimens in Bur. Coll. from Taliparamba, Malabar, with the note:—"In ginger-stems attacked by *Dichocrocis*."

CHROMATOPTERUM, Beck.

Chromatopterum lacteiventre, sp. n.

This species has the pubescent arista of the Indian species *C. pubescens*, Becker (III., p. 82), but its facies is that of the African *C. delicatum*, Becker (II., p. 413).

Head (top view):—Frons almost entirely covered by the brilliant shining black "triangle," which has its sides contiguous with the eyes and a rounded front margin reaching to the antennal base; its sides converge slightly to the front; the only part of the frons left uncovered by it are two small, dull orange, triangular patches each side in front; the surface is broadly and shallowly depressed; the ocellar hump is slightly raised and carries chestnut-coloured ocelli. Side-view:—The semicircular eyes cover the whole, projecting beyond the face and leaving practically no lower jaws and only a small hind eye-border, which is shining black, as is the whole hind head. The antennal 3rd joint is almost orbicular, just a little longer than deep, orange on lower half, blackened on top; arista inserted basally, hair-like except for the small pale basal joint, finely pubescent; 2nd joint yellow. Face darkened orange; palpi black.

Thorax (including scutellum and pleura) all shining black, the dorsum just before the scutellum and the scutellum itself very lightly dusted with orange pollen; the rounded and slightly swollen scutellum with moderately long slightly divergent end-bristles and a few accessory side-hairs.

Wings with venation as figured by Becker (II., tab. xiii. fig. 10), but the blackening is different; the front blackening is confined to the first part of first vein, the space between it and where the auxiliary vein would be (like a long stigma), and the thickened black costa itself, from which a faint suffusion runs on to the neighbouring cell; the end spot is smaller and discrete, it touches the costa midway between

the ends of 2 and 3, but does not extend to the end of wing or down to vein 3.

Halteres with ivory-white heads.

Legs mainly orange, all the coxæ black and all femora broadly ringed with black.

Abdomen: dorsum flattened, a little longer than broad, and tapering in outline from the base; it is of a quite unique colour, being all suffused with a dense milky-blue glaze; the last segment is considerably longer than the others; beneath, the abdomen is orange; the last segment, which is bent under, is all shining black.

Size about $1\frac{3}{4}$ mm.

Cam. Coll., Peradeniya, Ceylon (*J. C. F. Fryer*).

Ops, Becker.

O. madagascariensis, End.

A specimen in Cam. Coll., Durban (*F. M.*), differs from the ordinary form only in the femora being somewhat darkened.

O. callichroma, Loëw.

There are two specimens of this species—the one in Bur. Coll. from Nyasaland, in which the abdominal cross-bands are rather weak and indefinite. The other is a very bright and shining form, which might be taken as a subspecies. It is a little larger, and the "triangle" covering nearly all the frons is very deep excessively shining black instead of being shining brown. The abdominal markings are also very clear and distinct; they consist of the following on the yellow background:—1st segment with very short central bar; 2nd arched bar with the springings situated basally; 3rd broad, only leaving narrow hind margin yellow; 4th median, of half to'al breadth of segment; the pointed 5th has a narrow basal band.

A specimen in Cam. Coll., Durban (*F. M.*).

Ops nigra, sp. n.

The whole of head and thorax entirely shining black, except for the orange antennæ and bright yellow scutellum. The vertical triangle does not cover the whole of the frons, but leaves eye-margins narrowly widening right from the vertex.

Wings quite normal, clear.

Legs orange, with coxa black; femur very dusky except at tip. Knobs of halteres whitish orange.

Abdomen orange, with dark bands somewhat similar in form to last species, but all of them broader in proportion and less well demarcated.

Size 2 mm.

Cam. Coll., Mozambique (*F. M.*).

CHLOROPISCA, Loëw.

There are two single-specimen species—one resembling *obscurella*, but with a rounder head, the other like a true *Chlorops*, but with somewhat flattened scutellum. It is not advisable to describe from these single specimens.

CHLOROPS, Meig.

C. contribula, Loëw.

Cam. Coll., Durban (*F. M.*).

C. lavigata, Beck.

Cam. Coll., Durban (*F. M.*).

Chlorops zeylanica, sp. n.

There is one species which will not accord with any of Becker's species in the Indian fauna. It has a somewhat exceptionally prominent head (see fig. 9) and belongs to the section with fine white arista.

Fig. 9.

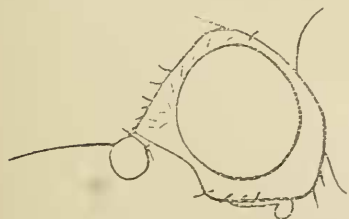
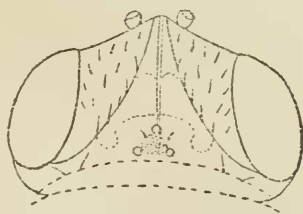


Fig. 10.



Chlorops zeylanica. $\times 30$.

Head (top view):—Frons (fig. 10) dull pale ochreous yellow covered with black hairs; the triangle very large, with its boundary well defined nearly up to the vertex, but there less so; it extends to the extreme front, with slightly

concave sides bordered with hair-lines, and it is the same colour as the frons but shining and suffused across the middle with pale brown, as shown by the dotted boundary-line in the figure; the ocellar spot is black; a very distinct but narrow furrow runs from front ocellus right to edge of frons. Hind head broadly black, with pale yellow bordering stripes starting from the vertical bristles. Side-view as in fig. 9; all yellow, the haired frons more orange, rest quite bare except for a few oral hairs. Antennæ with yellow basal joints, deep black orbicular third; arista white, basal joints a little suffuse, pubescence very fine. Face all pale yellow; palpi pale, but just perceptibly infuscate outside at tip; tongue yellow.

Thorax: dorsum moderately shining yellow, with black hairs; three broad black stripes, the middle one beginning on neck and extending to scutellum, the side ones abbreviated in front but meeting the middle one behind, so that they form an almost uninterrupted band on hind dorsum; small side-lines above the wings run into the main pair; humeri pale yellow. Pleura pale yellow; a shining oval black spot on the lower front angle of the mesopleura, the usual black triangle over the middle coxa, and a smallish black oval spot over the hind coxa.

Wings normal, clear, thick-veined; in one of the two specimens both the hind cross-veins are broken in the middle. Halteres bright whitish yellow, with darkened stalk.

Legs entirely yellow except that the front tarsus and last joints of the others are very faintly infuscate.

Abdomen: dorsum all brown-black, slightly shining, the hind margins of all segments but last very narrowly yellow, the last broadly so; venter paler.

Size (ex. antennæ) $3\frac{1}{2}$ min.

Cam. Coll., Peradeniya, Ceylon (*J. C. F. Fryer*).

PARECTECEPHALA, Beck.

Parectecephala varifrons, sp. n.

A species in the Cam. Coll. is best assigned to this genus; the triangle is rather longer than normal according to the descriptions of the known species.

Head (top view, fig. 12):—Frons about $2\frac{1}{2}$ times as broad as one eye and about $1\frac{1}{5}$ times longer than broad, projecting about $\frac{1}{3}$ its length beyond a line touching the eyes in front; eye-margins parallel, the projecting forehead narrowing a little and ending in a broad pointed tooth overhanging the

antennal pits; frons bright dull orange, with small scattered black hairs; the triangle has its base about $\frac{2}{3}$ the breadth at vertex; the bounding lines are nearly straight, a little raised, very narrowly yellow, and meet just beyond the level of the eyes; they continue nearly to the front in a shining yellow stalk; inside these narrow lines the triangle is mainly shining chestnut, but is variegated by lighter colours,

Fig. 11.

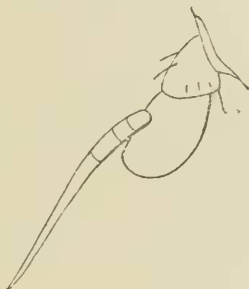
*Parectecephala varifrons*, sp. n., $\times 50$.

Fig. 12.

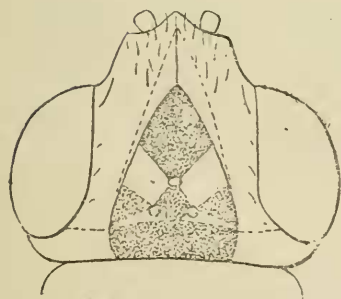
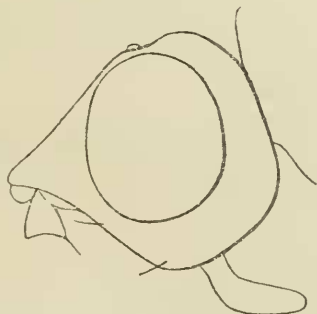


Fig. 13.

*Parectecephala varifrons*, sp. n., $\times 40$.

so that the most prominently visible chestnut part is a rhombus extending from the triangle's tip to the front ocellus; this area is also very shallowly hollowed out; the lighter parts consist of (1) a pair of oval dull brightish yellow spots each side of the ocellar area, and extending thence right to the sides of the triangle; (2) two more orange and

more shining spots extending from hind ocellus to the outer angles of the triangle. The hind head is orange except for a large black patch extending from the base of the triangle. Side-view (fig. 13):—All pale whitish yellow, the side of frons orange; eyes very nearly circular; jowls about depth of 3rd; face somewhat concave; antennæ as fig. 11, but the arista for its last $\frac{2}{3}$ is very faintly white pubescent, not bare as figured, 3rd joint orange with blackened tip; tongue and palpi yellow. Face whitish, unkeeled, but depressed, the actual facial ridges being marked with a narrow pale grey line; antennal pits well marked with dark shining chitinous edges.

Thorax: dorsum dull palish orange; a broad black central stripe from neck to end of scutellum—this is very intense up to about the middle of the dorsum, then gets much fainter, till it is very faint on the scutellum; each side is another uniformly black line, rounded and abbreviated front and back, and diminishing that way in breadth; below is another very thin blackened line extending forward from just above the wing for about $\frac{2}{3}$ the pleural length. Scutellum (as above) suffused centrally, sides orange, not flattened, a little hairy, pair of terminal bristles; metanotum darkened; the pleura all rather shining pale yellow, with a small elongate spot.

Wings normal, clear, with brown-orange veins, the distance between cross-veins about equal to the last part of 5th; halteres with whitish knobs.

Legs long, all yellow except for the last two darkened tarsal joints.

Abdomen shining brownish orange, with very narrow pale segmental margins; venter paler.

Size $4\frac{1}{2}$ mm.

Cam. Coll., Durban (*F. M.*).

PEMPHIGONOTUS, gen. nov.

In the Bur. Coll. are three specimens (1 ♂, 2 ♀) of a remarkable insect from Melville Island which exhibits marked sex-dimorphism.

Characters common to both sexes:—Texture horny, macrochaetes quite absent, though body hairy; scutellum very large, swollen, standing in profile well above the thoracic level (see fig. 14), with a flattened area of different texture; abdomen oval and flattened; wings with very long discal cell (see fig. 14), the auxiliary and anal veins just visible as "shadows" of veins; legs long; antenna like that

of a true *Chlorops*; the triangle narrow and ill-defined, with a better-defined narrow central line, only differentiated by shine from the rest of frons.

The male has a remarkable arch in the first part of the costa, which carries a fringe of very long hairs; the mid-femur and tibia are also clothed with abundant long tangled hairs.

Fig. 14.

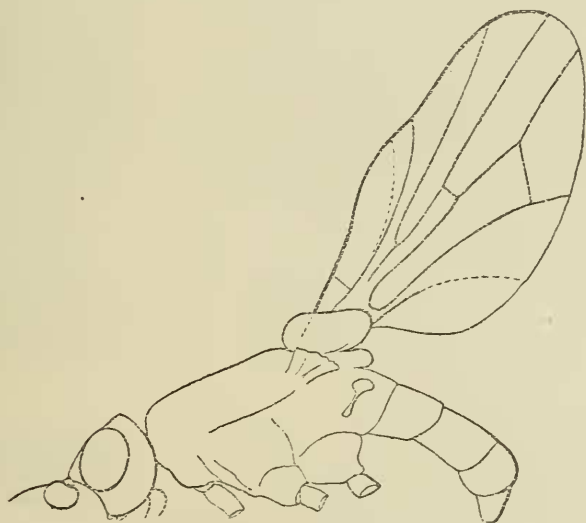
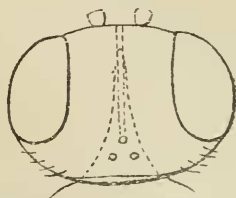
*Pemphigonotus mirabilis*, $\times 12$.

Fig. 15.

*Pemphigonotus mirabilis*, $\times 22$.*Pemphigonotus mirabilis*, sp. n.

The insect is all red-orange, slightly darkened in various places except where otherwise mentioned.

♂.—Head (top view, fig. 15):—Frons bare, dull except for the very narrow redder mid-line extending from ocellus to forehead and the narrow ill-bounded main triangle; no eye-margins; hind head hairy at upper corners behind eyes. Side-view (fig. 14):—Antennæ and palpi clear yellow; arista hair-like, pale; tongue fleshy and hooked at tip. In front the face is wide, with no keel except a tiny bar between antennæ; margin of mouth arched.

Thorax bare on dorsum, which is flattened and dull except for a central shining line extending to the shining base; the sides above the notopleural suture and all the pleura are abundantly clothed with long pale hairs. Scutellum enormously swollen both sideways and upwards, smooth except for an extraordinary flattened area on the disc, which is slightly dimpled: the base towards thorax has two large blackened areas with a pale line between; it is hairy, with pale hairs, which are longest and regular on the margin; notopleura smooth.

Wings as fig. 14, the costal elevation from base to 1st vein with a row of long, dark, silky hairs; the whole surface much suffused except a rather narrow lower margin from axillary angle to near the end of the 5th, and again from beyond that end to just across the 4th.

Halteres practically white.

Legs long, hairy, all pale orange except for a slight suffusion on the front tibia and the darkened tarsi; all the tarsi somewhat swollen. The middle femur and tibia with abundant long pale hairs.

Abdomen flattened, long-oval, the maximum breadth being about twice the thoracic breadth.

The ♀ differs as follows:—Thorax not so dull and not flattened; wings with no costal elevation, the whole costa being very gently curved in a continuous manner; no long hairs on costa; no long hairs on middle legs.

Size about 5 mm.

Bur. Cell., Melville Island, N. Australia (*G. F. Hill*).

BATHYPARIA, gen. nov.

Becker describes a genus *Euryparia* (III., p. 84) which occurs in Formosa; it has very deep jowls, quadrate 3rd antennal joint, and is covered with white hairs. Among the Durban species there are several specimens of a very handsome small Chloropid that have the above characters,

especially the bright silvery clothing, and even a faint central wing-cloud, in common with Becker's species; but they differ greatly in that the eyes are long-oval and the antennæ are smaller. The thorax in the species represented is black and not striped, and scutellar bristles are present. They must form the African equivalent of the Asiatic genus.

Head (see figs. 16 & 17):—The facial and frontal tangent-planes meet at about 120° ; eyes long-oval, with axis nearly upright; jowls very deep, about half the depth of the long eyes; antennæ nearly as long as face, with a practically rectangular 3rd joint about twice as long as broad, and a very fine, slender, bare arista, thickened basally. Frons parallel-sided, with a long rather narrow triangle from vertex to front only just differentiated by its extra shininess from the rest of frons. Wing-venation as fig. 18, the 3rd and 4th veins just not reaching the edge.

The whole insect is covered with brilliant shining white hairs even on the frons; these are very stout and bright on the thorax and head, but less so on the abdomen. Unlike *Euryparia*, there is a pair of scutellar bristles inserted in the same manner as in *Ops*.

The palpi are quite peculiar, being rather stout, long, and spoon-shaped.

Bathyparia præclara, sp. n.

Head (top view):—Chestnut-brown, the triangle more shining; the silvery hairs along the triangle's border bend across it; eye-margins broad and very silvery; the verticals and ocellars white; hind head all black except just on vertex behind ocelli, where is a long yellowish stripe along the vertical ridge. Side-view:—Similar in colour, the broad hind eye-margin very silvery, as is the hind jowl. Antenna slightly darkened brown; arista pale at base. The palpi are long, spoon-shaped, and silvery grey; tongue dark. Face the same brown colour, side-ridges well developed; no median keel, so that the antennæ nearly touch basally.

Thorax: dorsum, meso- and sternopleura all shining black and punctate, covered with bright silvery-white hairs arising from the punctures; the rest of pleura bare. Scutellum bright yellow, with approximated pale terminal bristles and silvery hairs like thorax. Notopleura black and dull from very faint shagreen.

Wings (see fig. 18) clear, with brown veins; in several specimens the central part is very faintly tinged with brown. Halteres pale yellow.

Legs long, with slightly dilated tarsal joints, all covered with the fine white silky hairs; front pair all black except for orange trochanter and knees; middle with orange trochanter, black femur, the rest nearly white; hind with dark orange trochanter, femur black with pale knee, tibia pale

Fig. 16.

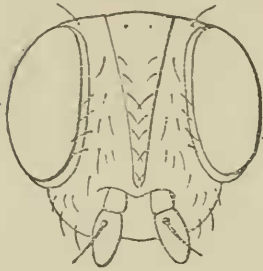


Fig. 17.

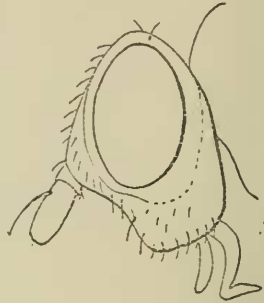
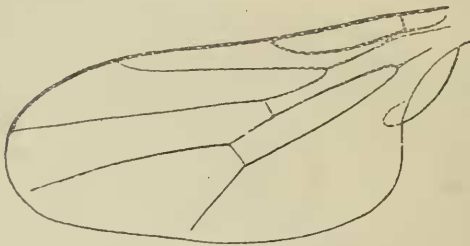


Fig. 18.

*Bathyparia præclara*, $\times 40$.

and more or less darkened about the middle, tarsi nearly white.

Abdomen smooth, shining black, the silky hairs evident but sparse and fine, a little longer at upper angles.

Size $2\frac{1}{4}$ mm.

Can. Coll., Back Beach, Durban (F. M.).